What is claimed is:

1. A solid-state image-sensing device comprising:

a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon;

a transistor of which a first electrode and a control electrode are connected to one electrode of the light-sensing element; and

a resetting portion for resetting the transistor by feeding a predetermined pulse signal to a second electrode of the transistor,

wherein the resetting portion resets the transistor in such a way as to inhibit the transistor from operating in a subthreshold region when the amount of light incident on the light-sensing element is below a predetermined level.

2. A solid-state image-sensing device comprising:

a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon;

a transistor of which a first electrode and a control electrode are connected to one electrode of the light-sensing element; and

a resetting portion for resetting the transistor by feeding a predetermined pulse signal to a second electrode of the transistor,

wherein the resetting portion resets the transistor in such a way as to permit the transistor to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above a predetermined level.

3. A solid-state image-sensing device comprising:

a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon;

a transistor of which a first electrode and a control electrode are connected to one electrode of the light-sensing element; and

a resetting portion for resetting the transistor by feeding a predetermined pulse signal to a second electrode of the transistor,

wherein the resetting portion resets the transistor in such a way as to keep the transistor in a cut-off state when the amount of light incident on the light-sensing element is below a predetermined level and permit the transistor to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above the predetermined level.

4. A solid-state image-sensing device comprising:

a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon;

a transistor of which a first electrode and a control electrode are connected to one electrode of the light-sensing element; and

a resetting portion for resetting the transistor by feeding a predetermined pulse signal to a second electrode of the transistor,

wherein the resetting portion resets the transistor in such a way as to

keep the transistor in a cut-off state when the amount of light incident on the light-sensing element is below a predetermined level so that an output linearly proportional to the amount of light incident on the light-sensing element appears at the control electrode of the transistor and

permit the transistor to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above the predetermined level so that an output logarithmically proportional to the amount of light incident on the light-sensing element appears at the control electrode of the transistor.

5. A solid-state image-sensing device having a plurality of pixels each comprising a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon,

wherein each pixel further comprises a transistor of which a first electrode and a control electrode are connected to one electrode of the light-sensing element,

the solid-state image-sensing device further has a resetting portion for resetting the transistor by feeding a predetermined pulse signal to a second electrode of the transistor, and

the resetting portion resets the transistor in such a way as to

keep the transistor in a cut-off state when the amount of light incident on the light-sensing element is below a predetermined level so that an output linearly proportional to the amount of light incident on the light-sensing element appears at the control electrode of the transistor and

permit the transistor to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above the predetermined level so that an output logarithmically proportional to the amount of light incident on the light-sensing element appears at the control electrode of the transistor.

6. A solid-state image-sensing device as claimed in claim 5,

wherein each pixel further comprises an amplifier circuit that amplifies the output

appearing at the control electrode of the transistor.

7. A solid-state image-sensing device as claimed in claim 5,

wherein each pixel further comprises:

a first sampling circuit that samples a voltage appearing at the control electrode of the transistor;

a first switch of which one end is connected to the sampling circuit; and

a second sampling circuit that is connected to another end of the first switch and that samples the voltage sampled by the first sampling circuit when the first switch is on.

8. A solid-state image-sensing device as claimed in claim 5,

wherein each pixel further comprises an integrator circuit that integrates the output appearing at the control electrode of the transistor.

9. A solid-state image-sensing device as claimed in claim 8,

wherein each pixel further comprises:

a first switch of which one end is connected to the integrator circuit; and

a sampling circuit that is connected to another end of the first switch and that samples an output of the integrator circuit when the first switch is on.

10. A solid-state image-sensing device as claimed in claim 5,

wherein each pixel further comprises a second switch that is connected between the light-sensing element and the first electrode of the transistor, and

the second switch is kept off during resetting, and is kept on during image sensing so

as to permit the transistor to operate in a subthreshold region over a whole brightness range so that an output logarithmically proportional to the amount of light incident on the light-sensing element appears at the control electrode of the transistor.

11. A solid-state image-sensing device as claimed in claim 5,

wherein the pixels are arranged in a matrix.

12. A solid-state image-sensing device comprising:

a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon;

a transistor of which a second electrode is connected to one electrode of the light-sensing element; and

a resetting portion for resetting the transistor,

wherein the resetting portion resets the transistor by feeding a predetermined second pulse signal to a control electrode of the transistor and a predetermined first pulse signal to a first electrode of the transistor in such a way as to keep the transistor in a cut-off state when the amount of light incident on the light-sensing element is below a predetermined level and permit the transistor to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above the predetermined level.

13. A solid-state image-sensing device comprising:

a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon;

a transistor of which a second electrode is connected to one electrode of the light-

sensing element; and

a resetting portion for resetting the transistor,

wherein the resetting portion resets the transistor by feeding a predetermined pulse voltage, in a range in which a potential at the second electrode of the transistor reflects a threshold level of the transistor, to at least the control electrode of the transistor in such a way as to keep the transistor in a cut-off state when the amount of light incident on the light-sensing element is below a predetermined level and permit the transistor to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above the predetermined level.

14. A solid-state image-sensing device having a plurality of pixels each comprising a light-sensing element that produces an electric signal commensurate with an amount of light incident thereon,

wherein each pixel further comprises a transistor of which a second electrode is connected to one electrode of the light-sensing element and that receives a first pulse signal having a first voltage at a first electrode thereof and a second pulse signal having a second voltage at a control electrode thereof during resetting,

a voltage at the second electrode of the transistor is reset through the transistor as a result of the first pulse signal being fed to the first electrode of the transistor and the second pulse signal being fed to the control electrode of the transistor, and

the transistor is

kept in a cut-off state when the amount of light incident on the light-sensing element is below a predetermined level so that an output linearly proportional to the amount of light incident on the light-sensing element appears at the second electrode of the transistor

and

made to operate in a subthreshold region when the amount of light incident on the light-sensing element is equal to or above the predetermined level so that an output logarithmically proportional to the amount of light incident on the light-sensing element appears at the second electrode of the transistor.

15. A solid-state image-sensing device as claimed in claim 14,

wherein each pixel further comprises an amplifier circuit that amplifies the output appearing at the second electrode of the transistor.

16. A solid-state image-sensing device as claimed in claim 15,

wherein each pixel further comprises an integrator circuit that integrates the output appearing at the second electrode of the transistor.

17. A solid-state image-sensing device as claimed in claim 14,

wherein the pixels are arranged in a matrix.

18. A solid-state image-sensing device having a plurality of pixels,

wherein each pixel comprises:

a photodiode that receives a direct-current voltage at a first electrode thereof; and

a first MOS transistor of which a first electrode and a gate electrode are connected to a second electrode of the photodiode and that receives a pulse signal having a predetermined voltage at a second electrode thereof,

a voltage at the gate electrode of the first MOS transistor is reset through the first MOS transistor as a result of the pulse signal being fed to the second electrode of the first MOS transistor, and

the first MOS transistor is

kept in a cut-off state when an amount of light incident on the photodiode is below a predetermined level so that an output linearly proportional to the amount of light incident on the photodiode appears at the gate electrode of the first MOS transistor and

made to operate in a subthreshold region when the amount of light incident on the photodiode is equal to or above the predetermined level so that an output logarithmically proportional to the amount of light incident on the photodiode appears at the gate electrode of the first MOS transistor.

19. A solid-state image-sensing device as claimed in claim 18,

wherein each pixel further comprises a second MOS transistor of which a gate electrode is connected to the first and gate electrodes of the first MOS transistor, the second MOS transistor outputting an output signal at a second electrode thereof.

20. A solid-state image-sensing device as claimed in claim 19,

wherein each pixel further comprises a third MOS transistor of which a first electrode is connected to the second electrode of the second MOS transistor and of which a gate electrode is connected to a row selection line, the third MOS transistor outputting an output signal at a second electrode thereof.

21. A solid-state image-sensing device as claimed in claim 19,

wherein each pixel further comprises a first capacitor of which one end is connected to the second electrode of the second MOS transistor and that receives a direct-current voltage at another end thereof.

22. A solid-state image-sensing device as claimed in claim 21,

wherein each pixel further comprises a fourth MOS transistor of which a gate electrode is connected to the second electrode of the second MOS transistor and that receives a direct-current voltage at a first electrode thereof.

23. A solid-state image-sensing device as claimed in claim 22,

wherein each pixel further comprises a third MOS transistor of which a first electrode is connected to the second electrode of the fourth MOS transistor and of which a gate electrode is connected to a row selection line, the third MOS transistor outputting an output signal at a second electrode thereof.

24. A solid-state image-sensing device as claimed in claim 21,

wherein each pixel further comprises:

a fifth MOS transistor of which a first electrode is connected to the one end of the first capacitor;

a second capacitor of which one end is connected to a second electrode of the fifth MOS transistor and that receives a direct-current voltage at another end thereof; and

a sixth MOS transistor of which a first electrode is connected to the one end of the second capacitor and that receives a direct-current voltage at a second electrode thereof, the sixth MOS transistor being used to reset the second capacitor,

wherein, as the individual pixels perform an image-sensing operation simultaneously, a voltage commensurate with an amount of light incident on the photodiode appears at the one end of the first capacitor, and, by turning on the fifth MOS transistor of the individual pixels simultaneously, the voltage that has appeared at the one end of the first capacitor is sampled by the second capacitor.

25. A solid-state image-sensing device as claimed in claim 24,

wherein each pixel further comprises a fourth MOS transistor of which a gate electrode is connected to the one end of the second capacitor and that receives a direct-current voltage at a first electrode thereof.

26. A solid-state image-sensing device as claimed in claim 25,

wherein each pixel further comprises a third MOS transistor of which a first electrode is connected to the second electrode of the fourth MOS transistor and of which a gate electrode is connected to a row selection line, the third MOS transistor outputting an output signal at a second electrode thereof.

27. A solid-state image-sensing device as claimed in claim 18,

wherein each pixel further comprises a first capacitor of which one end is connected to the first and gate electrodes of the first MOS transistor and that receives a direct-current voltage at another end thereof.

28. A solid-state image-sensing device as claimed in claim 27,

wherein each pixel further comprises:

a fifth MOS transistor of which a first electrode is connected to the one end of the first capacitor;

a second capacitor of which one end is connected to a second electrode of the fifth MOS transistor and that receives a direct-current voltage at another end thereof; and

a sixth MOS transistor of which a first electrode is connected to the one end of the second capacitor and that receives a direct-current voltage at a second electrode thereof, the sixth MOS transistor being used to reset the second capacitor,

wherein, as the individual pixels perform an image-sensing operation simultaneously, a voltage commensurate with an amount of light incident on the photodiode appears at the one end of the first capacitor, and, by turning on the fifth MOS transistor of the individual pixels simultaneously, the voltage that has appeared at the one end of the first capacitor is sampled by the second capacitor.

29. A solid-state image-sensing device as claimed in claim 28,

wherein each pixel further comprises a fourth MOS transistor of which a gate electrode is connected to the one end of the second capacitor and that receives a direct-current voltage at a first electrode thereof.

30. A solid-state image-sensing device as claimed in claim 29,

wherein each pixel further comprises a third MOS transistor of which a first electrode is connected to the second electrode of the fourth MOS transistor and of which a gate electrode is connected to a row selection line, the third MOS transistor outputting an output signal at a second electrode thereof.

31. A solid-state image-sensing device as claimed in claim 18,

wherein each pixel further comprises a seventh MOS transistor of which a first electrode is connected to the second electrode of the photodiode and of which a second electrode is connected to the first and gate electrodes of the first MOS transistor, and

the seventh MOS transistor is kept off during resetting, and is kept on during image sensing so as to permit the first MOS transistor to operate in a subthreshold region over a whole brightness range so that an output logarithmically proportional to the amount of light incident on the photodiode appears at the gate electrode of the first MOS transistor.

32. A solid-state image-sensing device as claimed in claim 18,

wherein the pixels are arranged in a matrix.

33. A solid-state image-sensing device having a plurality of pixels,

wherein each pixel comprises:

a photodiode that receives a direct-current voltage at a second electrode thereof; and

a first MOS transistor of which a second electrode is connected to a first electrode of the photodiode and that receives a first pulse signal having a first voltage at a first electrode thereof and a second pulse signal having a second voltage at a gate electrode thereof,

a voltage at the second electrode of the first MOS transistor is reset through the first MOS transistor as a result of the first pulse signal being fed to the first electrode of the first MOS transistor and then the second pulse signal being fed to the gate electrode of the first MOS transistor, and

the first MOS transistor is

kept in a cut-off state when an amount of light incident on the photodiode is below a predetermined level so that an output linearly proportional to the amount of light incident on the photodiode appears at the second electrode of the first MOS transistor and

made to operate in a subthreshold region when the amount of light incident on the photodiode is equal to or above the predetermined level so that an output logarithmically proportional to the amount of light incident on the photodiode appears at the second electrode of the first MOS transistor.

34. A solid-state image-sensing device as claimed in claim 33,

wherein each pixel further comprises a second MOS transistor of which a gate electrode is connected to the second electrode of the first MOS transistor, the second MOS transistor outputting an output signal at a second electrode thereof.

35. A solid-state image-sensing device as claimed in claim 34,

wherein each pixel further comprises a third MOS transistor of which a first electrode is connected to the second electrode of the second MOS transistor and of which a gate electrode is connected to a row selection line, the third MOS transistor outputting an output signal at a second electrode thereof.

36. A solid-state image-sensing device as claimed in claim 34,

wherein each pixel further comprises a first capacitor of which one end is connected to the second electrode of the second MOS transistor and that receives a direct-current voltage at another end thereof.

37. A solid-state image-sensing device as claimed in claim 36,

wherein each pixel further comprises a fourth MOS transistor of which a gate electrode is connected to the second electrode of the second MOS transistor and that receives a direct-current voltage at a first electrode thereof.

38. A solid-state image-sensing device as claimed in claim 37,

wherein the second MOS transistor is a MOS transistor of an opposite polarity type to the first MOS transistor.

39. A solid-state image-sensing device as claimed in claim 37,

wherein each pixel further comprises a third MOS transistor of which a first electrode is connected to the second electrode of the fourth MOS transistor and of which a gate electrode is connected to a row selection line, the third MOS transistor outputting an output signal at a second electrode thereof.

40. A solid-state image-sensing device as claimed in claim 39,

wherein the second MOS transistor is a MOS transistor of an opposite polarity type to the first MOS transistor.

41. A solid-state image-sensing device as claimed in claim 33,

wherein the pixels are arranged in a matrix.